

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1 (Currently Amended): An apparatus for restricting axial flow through the clearance between a rotating shaft and a seal stator and providing effective damping to improve rotor stability, comprising:

an abradable labyrinth seal and swirl-reversal vanes upstream of the labyrinth seal wherein the shaft comprises a first toothed axial section having a plurality of annular teeth having tips, a second upstream toothed axial section having a few annular teeth from one to three and a section therebetween having a cylindrical surface of diameter less than the outer edge diameter of the teeth of the toothed sections, wherein there is a smooth cylindrical abradable coating on the surface of the stator seal radially outward of the first toothed section having a diameter less slightly greater than the outer tip diameter of the teeth in the first toothed axial section, the swirl-reversing vanes being fastened to the stator between the toothed sections.

Claims 2, 3, and 4 (Cancelled.)

Claim 5 (Currently Amended): The apparatus according to ~~claim 4~~ claim 1, wherein the vanes have an arcuate shape and the top of the arc is pointed in the direction of rotation of the shaft.

Claim 6 (Original): The apparatus according to ~~claim 4~~ claim 1, wherein the vanes have tapered ends.